THAT WHICH IS CLAIMED IS:

1. A method of analyzing a telephone local loop comprising the steps of:

determining the physical loop faults within the local loop;

qualifying the local loop for a particular Digital Subscriber Line (DSL) technology; and

quantifying the local loop by calculating the signal-to-noise ratio and calculating the data rates of the local loop for a particular DSL technology.

2. A method according to Claim 1, wherein the particular DSL technology comprises symmetric DSL technology.

3. A method according to Claim 1, wherein the particular DSL technology comprises asymmetric DSL technology.

4. A method according to Claim 1, wherein the step of quantifying the local loop comprises the step of modeling the local loop.

5. A method according to Claim 4, wherein the step of modeling the local loop comprises the step of modeling the Resistance, Inductance, Capacitance, and Conductance (RLCG) primary constants and the line parameters for various segments of the local loop.

6. A method according to Claim 5, wherein the line parameters are modeled based on the frequency and RLCG primary constants.

7. A method according to Claim 1, wherein the step of determining physical loop faults includes the step of obtaining plant data and test results from a test head within a communications network containing the local loop.

8. A method according to Claim 1, wherein the step of qualifying the local loop comprises the step of testing for the presence or absence of load coils, impulse noise counts, and ringer counts, and then comparing the counts with thresholds specified by given DSL technologies.

9. A method according to Claim 1, wherein the step of quantifying the local loop comprises the step of calculating downstream and upstream data rates based on the downstream and upstream transmit signal Power Spectral Densities (PSD), insertion loss, and noise versus frequency measurements.

10. A method according to Claim 9, and further comprising the step of calculating the insertion loss of the local loop with or without bridged taps based on the cable type, wire gauge, loop length and its topology.

11. A method according to Claim 1, wherein the step of quantifying the local loop comprises the step selecting a particular DSL technology from a configurable list of DSL technologies and analyzing each technology within the list until local loop qualifies.

12. A method of analyzing a telephone local loop comprising the steps of:

determining the physical loop faults within the local loop;

qualifying the local loop for a particular Digital Subscriber Line (DSL) technology; and

quantifying the local loop by calculating the transmit signal Power Spectral Densities (PSD), and calculating upstream and downstream data rates for a particular DSL technology.

13. A method according to Claim 12, wherein the particular DSL technology comprises asymmetric DSL technology.

14. A method according to Claim 13, wherein the step of quantifying the local loop comprises the step of modeling the local loop topology for VDSL technology.

15. A method according to Claim 12, and comprising the step of modeling the local loop by modeling the Resistance, Inductance, Capacitance, and Conductance (RLCG) primary constants and the line parameters for various segments of the local loop.

16. A method according to Claim 15, wherein the line parameters are modeled based on the frequency and RLCG primary constants.

17. A method according to Claim 12, wherein the step of determining physical loop faults includes the step of obtaining test results from a test head within a communications network containing the local loop and plant data.

18. A method according to Claim 12, wherein the step of qualifying the local loop comprises the step of testing for the presence or absence of load coils, impulse noise counts, and ringer counts, and then comparing the counts with thresholds specified by given DSL technologies.

19. A method according to Claim 12, wherein the step of quantifying the local loop comprises the step of calculating downstream and upstream data rates based on the downstream and upstream transmit signal Power Spectral Densities (PSD), insertion loss, and noise versus frequency measurements.

20. A method according to Claim 19, and further comprising the step of calculating the insertion loss of the local loop with or without bridged taps based on the cable type, wire gauge, loop length and its topology.

21. A method according to Claim 12, wherein the step of quantifying the local loop comprises the step selecting a particular DSL technology from a configurable list of DSL technologies and analyzing each technology within the list until local loop qualifies.

~~22.~~ A system for analyzing a telephone local loop comprising:

a central office operatively connected to a telephone local loop; and

a bandwidth analysis system operatively connected to the central office and operative for:

(a) determining the physical loop faults within the local loop;

(b) qualifying the local loop for a particular Digital Subscriber Line (DSL) technology; and

(c) quantifying the local loop by calculating the signal-to-noise ratio and calculating data rates for a particular DSL technology.

23. A system according to Claim 22, and further comprising a call center operatively connected to the central office, said call center having a test access controller and said bandwidth analysis system comprising a software module associated with said test access controller.

24. A system according to Claim 22, wherein the bandwidth analysis system further comprises a remote test unit for obtaining local loop line data.

25. A system according to Claim 22, wherein the bandwidth analysis system is operative for modeling the local loop.

26. A system according to Claim 25, wherein the bandwidth analysis system is operative for modeling the Resistance, Inductance, Capacitance, and Conductance (RLCG) primary constants and the line parameters for various segments of the local loop.

27. A system according to Claim 26, wherein the line parameters are modeled based on the frequency and RLCG primary constants.

28. A system according to Claim 22, wherein the bandwidth analysis system is operative for determining physical loop faults by obtaining plat data

and test results from a test head within a communications network containing the local loop.

29. A system according to Claim 22, wherein the bandwidth analysis system is operative for qualifying the local loop by testing for the presence or absence of load coils, impulse noise counts, and ringer counts, and then comparing the counts with thresholds specified by given DSL technologies.

30. A system according to Claim 22, wherein the bandwidth analysis system is operative for quantifying the local loop by calculating downstream and upstream data rates based on the downstream and upstream transmit signal power spectral densities (PSD), insertion loss, and noise versus frequency measurements.

31. A system according to Claim 30, wherein the bandwidth analysis system is operative for calculating the insertion loss of the local loop with or without bridged taps based on the cable type, wire gauge, loop length and its topology.

32. A system according to Claim 22, wherein the bandwidth analysis system is operative for selecting a particular DSL technology from a configurable list of DSL technologies and analyzing each technology within the list until local loop qualifies.

~~33~~. A system for analyzing a telephone local loop comprising:

a central office operatively connected to a telephone local loop; and

a bandwidth analysis system operatively connected to the central office and operative for:

(a) determining the physical loop faults within the local loop;

(b) qualifying the local loop for a particular Digital Subscriber Line (DSL) technology; and

(c) quantifying the local loop by calculating the transmit signal Power Spectral Densities (PSD), and calculating upstream and downstream data rates for a particular DSL technology.

34. A system according to Claim 33, and further comprising a call center operatively connected to the central office, said call center having a test access controller and bandwidth analysis system.

35. A system according to Claim 33, wherein the bandwidth analysis system further comprises a remote test unit for obtaining local loop line data.

36. A system according to Claim 33, wherein the bandwidth analysis system is operative for modeling the local loop.

37. A system according to Claim 36, wherein the bandwidth analysis system is operative for modeling the Resistance, Inductance, Capacitance, and Conductance (RLCG) primary constants and the line parameters for various segments of the local loop.

38. A system according to Claim 37, wherein the line parameters are modeled based on the frequency and RLCG primary constants.

39. A system according to Claim 33, wherein the bandwidth analysis system is operative for determining physical loop faults by obtaining plant data

and test results from a test head within a communications network containing the local loop.

40. A system according to Claim 33, wherein the bandwidth analysis system is operative for qualifying the local loop by testing for the presence or absence of load coils, impulse noise counts, and ringer counts, and then comparing the counts with thresholds specified by given DSL technologies.

41. A system according to Claim 33, wherein the bandwidth analysis system is operative for quantifying the local loop by calculating downstream and upstream data rates based on the downstream and upstream transmit signal power spectral densities (PSD), insertion loss, and noise versus frequency measurements.

42. A system according to Claim 33, wherein the bandwidth analysis system is operative for calculating the insertion loss of the local loop with or without bridged taps based on the cable type, wire gauge, loop length and its topology.

43. A system according to Claim 33, wherein the bandwidth analysis system is operative for selecting a particular DSL technology from a configurable list of DSL technologies and analyzing each technology within the list until a local loop qualifies.